

NARROW ROW COTTON TRIAL

Yuma Valley Experiment Station Agricultural Extension Agent--J.R. Hazlitt

Variety	Row Spacing (inches)	Plant Population <u>1</u> / Plants/Acre	Turnout (%)	Lint (lb/A)
DPL - 16	36	25,000	28.8	787
DPL - 16	12	75,000	28.8	797
Dunn 56C	12	58,000	28.0	761
Tamcot 788	12	40,000	27.6	567
Lockett 4789A	12	71,000	28.0	643

1/ Planting rates differed with seed size but were about 30 lb/A.

CROP HISTORY: PLANTED: 4/1/70 with International Harvester precision planters in a mulch. HARVESTED: 10/20/70. PREVIOUS CROP: 1969 fallow (summer sudangrass green manure crop). IRRIGATION: Preplant 3/14/70. First 5/19/70, second 6/18/70, third 7/7/70. Final irrigation 7/25/70. Total amount of irrigation water applied approximately 24 inches. FERTILIZER: Preplant incorporated 300 lb/A ammonium nitrate (99 lb N). WEED CONTROL: Treflan 3/4 lb/A + Karmex 1 1/2 lb/A applied flat and shallow disc incorporated 3 inches. Both chemicals were mixed together in one spray tank and applied before the preplant irrigation. DEFOLIATION: DEF 2 pt/A on 9/4/70. Paraquat 1 1/2 pt/A on 10/15/70.

OBSERVATIONS: Emergence of Tamcot was poor, resulting in midseason breakthrough of ground cherry. Dunn variety flowered and set bolls earlier than other varieties. On 8/13/70 most bottom bolls had boll rot. One month later on 9/9/70, 50% of all bolls had boll rot. Boll rot organisms enter bolls through pink bollworm exit holes and is especially prevalent at a high relative humidity as was the case in August.

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NARROW ROW COTTON TRIAL

Lee Mauldin Ranch--Lower Gila Valley Agricultural Extension Agent--J.R. Hazlitt

Variety	Row Spacing	Lint lbs/Acre*
DPL-16	20" rows	800
DPL-16	conventional	1000

* Value given for conventional row cotton yield based on first picking only. The 20 inch row plots were not harvested until a month after defoliation which resulted in considerable cotton loss on the ground.

CROP HISTORY: PLANTED: 3/16/70 with Flex planters in a mulch, planting rate was 35 lb/A. HARVESTED: 10/15/70. PREVIOUS CROP: Cotton. IRRIGATION: Preplant 2/3/70, first 5/29/70, second 6/13/70, third 7/4/70. Final irrigation 7/25/70. Conventional grown cotton had two more irrigations. FERTILIZER: 50 lb/A nitrogen as urea applied at first irrigation. Conventional grown cotton received 250 lb/A of 11-48-0 and 150 lb/A nitrogen from anhydrous ammonia. WEED CONTROL: Treflan 1/2 lb/A + Karmex 1 1/4 lb/A applied flat and incorporated with power tiller to depth of 2 1/2 inches. Both chemicals were mixed together in a spray tank and applied with mulching operation on 3/6/70. INSECT CONTROL: Pink bollworm control - six applications of Azodrin starting 7/15/70. The conventional grown cotton received two additional applications of Azodrin. DEFOLIATION: DEF at 2 pt/A and 1 pt/A Accelerate applied 9/1/70.

NARROW ROW COTTON TRIAL

Bogle Farms--Maricopa			Agricultural Extension Agent--Sam Stedman		
Variety	Turnout <u>1</u> / (%)	Lint (lb/A)	Length	Grade	Micronaire <u>2</u> / (Average)
DPL-16	27.9	795	1 1/16	9 bales M 5 bales MLS 1 bale SIM	4.56

1/ Percent turnout based upon actual gin results.

2/ Quality measurements made by actual gin sample methods.

These values do not include any ground cotton.

NARROW ROW COTTON TRIAL

Joe Sheely--Tolleson		Agricultural Extension Agent--C.R. Farr				
Variety	Turnout <u>1</u> / (%)	Popu- lation	Lint (lb/A)	Length	Grade	Micronaire <u>2</u> / (Average)
Lockett 4789A	29.9	65,000	423	1 1/16	SIM	3.70
Paymaster 909	31.7	34,000	522	1 1/16	1 bale SIM 1 bale MLS	4.20
Dunn 56C	30.5	44,000	595	1 1/16	2 bales SIM	4.10
DPL-16	30.5	55,000	723	1 1/16	2 bales SIM 1 bale M	4.0

1/ Percent turnout based upon actual gin results.

2/ Quality measurements made by actual gin sample methods.

CROP HISTORY: PLANTED:* 3/30/70. HARVESTED: 10/20/70. PREVIOUS CROP: Wheat and maize (double crop-1969). IRRIGATION: Irrigated up with five additional irrigations. The last of which was July 29. FERTILIZER: 300 lb/A 16-20-0 as a preplant. WEED CONTROL: Cultivated twice, hand-hoed once. INSECT CONTROL: Six times. AREA HARVESTED FOR TEST: DPL-16 plot size was 2.22 acres. Other varieties plot size was 1.46 acres.

* This trial was planted twice.

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NARROW ROW COTTON TRIAL

Martin Talla Farm--Stanfield Agricultural Extension Agent--Sam Stedman

Variety	Turnout <u>1/</u> (%)	Lint (lb/A)	Length	Grade	Micro- naire <u>2/</u>
Lockett	28.3	615	3 bales 1 1/32	MLS	4.20
DPL -16 (North)	29.2	913	6 bales 1 1/32 1 bale 1 1/16	5 bales SLMLS 21 bales MLS	4.10
DPL-16 (South)	28.9	637	5 bales 1 1/16	5 bales M	4.60

1/ Percent turnout based upon actual gin results.

2/ Quality measurements made by actual gin sample methods.

CROP HISTORY: PLOT SIZE: Total acres of narrow row cotton - 9.6 acres - planted on 40" beds - two rows of cotton 14" apart - no ground cotton. Because of soil difference, the field of DPL-16 was divided in half and harvested as separate fields. The entire field of 9.6 acres, including both varieties, DPL-16 and Lockett, averaged 744 lbs/acre. No ground cotton. IRRIGATION: The field was irrigated three times after stand established. Last irrigation 7/21/70.

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NARROW ROW COTTON TRIAL

Jay Wilson--Stanfield Agricultural Extension Agent--Sam Stedman

Variety	Turnout <u>1/</u> (%)	Lint (lb/Area)	Length	Grades <u>2/</u>
Stoneville 213	29	1003	1 1/16 1 1/16 1 1/16 1"-ground cotton	11 bales MLS 2 bales M white 9 bales SLM white 1 bale LM white

1/ Percent turnout based upon actual gin results.

2/ Quality measurements made by actual gin sample methods.

CROP HISTORY: PLANTED: March 20 - irrigated up. Emerged April 15, 1970. Planting rate was 32 lbs. per acre. Disyston seed treated PCNB + Cerasan. IRRIGATION: Four irrigations, last irrigation August 1. Pump was used for source. WEED CONTROL: Treflan at .8 lb/A incorporated over the beds preplant. INSECT CONTROL: Pink bollworm control. PLANT POPULATION: 57,000 plants/A. DEFOLIANT: August 27, DEF + Paraquat; second application, Chlorate. AREA HARVESTED FOR TEST: Two rows/ bed 14" apart 40" beds. 11.2 acres. FERTILIZER: 50 lb/A N from NH₃.

Petiole Analysis

ppm NO ₃	ppm NO ₃
6/4 2,050	7/9 1,870
6/11 9,790	7/16 2,750
6/18 9,130	

NARROW ROW COTTON TRIAL

Jim Burns--Casa Grande Agricultural Extension Agent--Sam Stedman

Turnout <u>1/</u> (%)	Lint (lb/A)*	Length	Grade	Micronaire <u>2/</u>
29.0	532	1 1/16 1 1/16 1 1/16 1 1/16 to 31/32	3 bales MLS 4 bales SMLS 4 bales SIM 1 bale SIMLS	not available

1/ Percent turnout based upon actual gin results.

2/ Quality measurements made by actual gin sample methods.

CROP HISTORY: PLANTED: April 28. Variety Deltapine 16. PLOT SIZE: 11.93 acres. HARVESTED: September 19, 1970. TURNOUT (%): 28. PLANTING PATTERN: 36"-38" bed. Cotton planted on 12" rows on beds.

* Approximately 1 bale was picked up off the ground and is not figured in the above yield figure.

No insect control. \$4.20 NH₃ run in water.

NARROW ROW COTTON TRIAL

Dave Nelson--Maricopa Agricultural Extension Agent--Sam Stedman

Variety	Lint (lbs/A)	Turnout (%)	<u>1/</u> Length	Grade	Micronaire <u>2/</u>
Tamcot 788	499	25.0	3 bales-	3 bales MLS 1 1/16	3 bales 40-42-43
Lockett 4789A	371	22.6	2 bales-	2 bales SIM 1 1/16	2 bales 36-35
Stoneville 213	541	24.9	3 bales-	SIM SIM MLS 1 1/16	3 bales 42-46-46
Dunn 56 C	446	23.4	3 bales-	SIMLS SIM SLM 1 1/16	3 bales 38-38-43

1/ Percent turnout based upon actual gin results.

2/ Quality measured by actual gin sample methods.

CROP HISTORY: PLOT SIZE: Each variety - 3 acres
Ground cotton was not taken in this trial.
Approximately 50% stand
HARVEST DATE: September 28, 1970.

NARROW ROW COTTON TRIAL

(SOIL AND PLANT TYPE)

Travis Jones--Buckeye Agricultural Extension Agent--C.R. Farr

Plant Height	Seeding Rate (lb/A)	Population (Plants/A)	Soil Type	Seed Cotton (lb/A)	Boll Wt <u>1/</u> Grams/Boll	Bolls/lb Seed Cotton
27-34"	35	130,000	Sandy Loam	2794	3.48	130
42-50"	35	110,000	Silt Loam	3202	4.63	98
25-32"	50	153,000	Sandy Loam	2712		
40-50"	50	148,000	Silt Loam	3352		

1/ Weight measurements consisted of first two bolls collected from bottom of 25 plants. Bolls were collected below the 15th lateral in two different soil types.

CROP HISTORY: PLANTED: 4/6/70. HARVESTED: 11/16/70. PREVIOUS CROPS: Safflower, wheat and cotton. IRRIGATION: Final irrigation 8/25/70. FERTILIZER: 180 lbs/A Nitrogen. SOIL TYPE: Sandy loam. AREA HARVESTED FOR TEST: Two rows on a bed, 197 feet long. VARIETY: DPL-16.

NARROW ROW COTTON TRIAL
(IRRIGATION METHODS)*

Travis Jones--Buckeye		Agricultural Extension Agent--C.R. Farr				
Irrigation Method	Seed Cotton (lb/A)	Turnout <u>1/</u> (%)	Lint (lb/A)	Length (UHM)	Strength (Pressley 1/8")	Micro-naire <u>2/</u>
Alternate Row 12-hr sets	2954	37.1	1096	1.09	3.34	5.03
Alternate Row 24-hr sets	3052	35.9	1096	1.07	3.19	4.60

* Comparisons made on sandy loam soil.

1/ Percent turnout based upon laboratory gin results.

2/ Quality measurements made at the University of Arizona Cotton Laboratory.

CROP HISTORY: PLANTED: 4/6/70. HARVESTED: 11/16/70. PREVIOUS CROPS: Safflower, wheat, and cotton. IRRIGATION: Final irrigation 8/25/70. FERTILIZER: 180 lb/A nitrogen. SOIL TYPE: Sandy loam. AREA HARVESTED FOR TEST: Two rows on a bed, 197 feet long. VARIETY: DPL-16.

NARROW ROW COTTON TRIAL
(NITROGEN FERTILIZER RATE)*

Travis Jones--Buckeye		Agricultural Extension Agent--C.R. Farr				
Nitrogen (lb/A)	Seed Cotton (lb/A)	Turnout <u>1/</u> (%)	Lint (lb/A)	Length (UHM)	Strength (Pressley 1/8")	Micro-naire <u>2/</u>
135	2095	29.4	616	1.05	2.95	3.98
180	2827	27.4	775	1.08	3.02	4.00
225	2741	29.2	800	1.08	3.15	3.85

* Urea used as a source of nitrogen in four applications on a sandy loam soil.

1/ Percent turnout based upon laboratory gin results.

2/ Quality measurements made at the University of Arizona Cotton Laboratory.

CROP HISTORY: PLANTED: 4/6/70. HARVESTED: 11/16/70. PREVIOUS CROP:
Safflower, wheat and cotton. IRRIGATION: Final irrigation
8/25/70. SOIL TYPE: Sandy loam. AREA HARVESTED FOR TEST:
Two rows per bed, 195 feet in length. VARIETY: DPL-16.

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NARROW ROW COTTON TRIAL

(VARIETY TEST)

Dougherty Ranch--Higley Agricultural Extension Agent--C.R. Farr

Variety	Turnout <u>1/</u> (%)	Lint (lb/A)	Length (UHM)	Strength (Pressley 1/8")	Micro- naire <u>2/</u>
Tamcot 788	33.1	872	1.07	3.40	3.63
Stoneville 213	35.4	997	1.00	2.81	4.43
Dunn 56	31.2	786	1.08	3.42	3.63
DPL-16	35.9	1028	1.08	2.98	4.17

1/ Percent turnout based upon laboratory gin results.

2/ Quality measurements made at the University of Arizona Cotton Laboratory.

CROP HISTORY: PLANTED: 4/12/70. HARVESTED: 10/15/70. PREVIOUS CROP:
Sorghum, cotton. IRRIGATION: Final irrigation on 8/15/70.
FERTILIZER: 40 lb/A nitrogen, 50 lb/A P₂O₅. SOIL TYPE: Clay
loam. AREA HARVESTED FOR TEST: Two rows on a bed, 300 feet in
length.

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NARROW ROW COTTON TRIAL

(ROW-SPACING)

W.A. Heiden & Son--Buckeye Agricultural Extension Agent--C.R. Farr

Row Spacing	Turnout <u>1/</u> (%)	Lint (lb/A)	Length (UHM)	Strength (Pressley 1/8")	Micro- naire <u>2/</u>
Single Row-38"	32.7	1381	1.08	3.09	5.10
Double Row-12"-26"	26.8	1372			
Double Row-18"-20"	26.8	1389			

1/ Percent turnout based upon actual gin results.

2/ Quality measurements made at the University of Arizona Cotton Laboratory.

CROP HISTORY: PLANTED: 3/31/70. HARVESTED: 11/20/70. PREVIOUS CROP: Safflower 1969 - Safflower 1968 - Cotton 1967. IRRIGATION: 8 irrigations with the last being made on 9/1/70. FERTILIZER: 10 tons of manure. INSECT CONTROL: 8 applications the last of which was on 9/25/70. SOIL TYPE: Sandy loam. AREA HARVESTED FOR TEST: 2 rows, 1194 feet in length. VARIETY: DPL-16.

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NARROW ROW COTTON TRIAL

Parke-Gilbert--Casa Grande Agricultural Extension Agent--Sam Stedman

Variety	Turnout <u>1/</u> (%)	Lint <u>2/</u> (lb/A)	Length (inches)	Grade	Micronaire <u>3/</u> (Average)
DPL-16	28.0	791	17 bales 1 1/32 13 bales 1 1 bale 31/32	24 bales MLS 6 bales SMLS 1 bale MS	3.60
DPL-Smooth Leaf	32.0	784	7 bales 1 1/32 4 bales 1	4 bales MLS 7 bales SMLS	3.90
DPL-45A	27.4	750	2 bales 1 1/32 2 bales 1	4 bales MLS	4.2
Stoneville 213	27.3	811	3 bales 1 1/32 2 bales 1	5 bales MLS	4.7

1/ Percent turnout based upon actual gin results.

2/ Values include ground cotton.

3/ Quality measurements based upon actual gin sample methods.

CROP HISTORY: PLANTED: 3/15 - 3/19/70, irrigated up. Replanted 4/5/70. HARVESTED: 9/15/70. IRRIGATION: First 3/16/70, second 4/12/70 (after replanting), third 5/5/70, fourth 6/8/70, fifth 6/27/70. Final irrigation 7/20/70. FERTILIZER: Broadcast preplant 125 lbs. of urea (52 units of nitrogen). PETIOLE READING:

June 4	4,900 ppm - nitrate
June 11	11,030 ppm - nitrate
June 18	11,999 ppm - nitrate
June 25	11,990 ppm - nitrate
July 2	8,690 - nitrate
July 9	4,070 - nitrate
July 16	440 - nitrate

WEED CONTROL: 3/26/70 - applied Treflan at 1 lb/A over the bed. Incorporated twice. One incorporation with sidewinder and once with a lilliston cultivator. Hand-hoed once in July. Cultivated on 5/24/70, 6/2/70, 6/17/70. INSECT CONTROL: 7/10/70. Lygus control-Dylox. 7/17/70 Lygus control-Dylox. 7/23/70 Lygus control Methyl parathion and toxaphene. Pink bollworm - Rossetted blooms found in June, one exit hole found 7/21/70.

AREA HARVESTED FOR TEST:

Plants/A

DPL - 16	- 20 acres	80,000
DPL - Smooth Leaf	- 7.2 acres	45,000
DPL - 45A	- 3.2 acres	63,000
Stoneville 213	- 3.3 acres	70,000

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NARROW ROW COTTON TRIAL

Buster Brown--Casa Grande Agricultural Extension Agent--Sam Stedman

Variety	Treatment	Stripped Cot. 1/		Ground Cot. 2/		Total 3/	Length	Strength (Press- ley 1/8")	Micro- naire
		Lint (lb/A)	Turnout (%)	Lint (lb/A)	Turnout (%)				
ST-213	Fertilized	792.9	29.6	76	26.64	869.4	-	-	-
ST-213	Non-Fertilized	757.0	29.6	76	26.64	833.0	1.00	2.77	4.40
DPL-16	Fertilized	887.0	30.1	76	26.64	963.0	1.03	3.00	4.20
DPL-16	Non-Fertilized	687.0	30.1	76	26.64	734.0	1.00	2.99	4.15

1/ Percent turnout based upon actual gin results.

2/ Ground cotton lint and percent turnout based on entire field.

3/ Quality measurements made at the University of Arizona Cotton Laboratory.

CROP HISTORY: PLANTED: 3/17/70. Planted in dry bed and irrigated up.
 HARVESTED: 9/17/70. PREVIOUS CROP: Cotton 1969 and Barley 1968.
 IRRIGATION: 3/17/70 with six other irrigations. The second irrigation was at germination time to break crust. The final irrigation was on 8/1/70. SOURCE OF WATER: Well, 450' deep.
 FERTILIZER: 83 lb/A N from NH₃ injected as a preplant on the fertilizer test plots. No fertilizer applied on rest of field.
 WEED CONTROL: 3/12/70. Dacthal flown on bed before planting. 4/5/70 cultivated with beet cultivator. INSECT CONTROL: Twice in July for Lygus. DEFOLIANT: 2 gal. sodium chlorate + 3/4 pt. Paraquat. AREA HARVESTED FOR TEST: 1 acre plots. 40" beds, two rows per bed. 14" apart.

Variety	Plants/A	Petiole Analysis ppm NO ₃	
		DPL-16	Fertilized
ST-213 Fertilized	62,000	6/04	3,550
ST-213 Non-Fertilized	58,000	6/11	10,670
DPL-16 Fertilized	88,000	6/18	9,130
DPL-16 Non-Fertilized	89,000	6/25	9,130
		7/02	8,360
		7/09	5,550
		7/16	1,870

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